



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CHICAGO REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

Date: 5/31/2018
Subject: Review of Region 5 Data for Central Sands
To: Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
From: Amanda Wroble, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

A handwritten signature in cursive script that reads "Amanda Wroble". The signature is written in dark ink and is positioned above a horizontal line.

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: Central Sands

Analyses included in this report:

Metals ICP-AES (w)

Report Name: 1805007 Metals ICP-AES (w) FINAL May 31 18 1359



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Accredited Analyses included in this Report



Method: EPA 200.7 in Water
Analysis: Metals ICP-AES (w)

Analyte	Certifications
Aluminum	ISO/IEC 17025:2005
Aluminum hi	ISO/IEC 17025:2005
Antimony	ISO/IEC 17025:2005
Arsenic	ISO/IEC 17025:2005
Barium	ISO/IEC 17025:2005
Beryllium	ISO/IEC 17025:2005
Boron	ISO/IEC 17025:2005
Cadmium	ISO/IEC 17025:2005
Calcium	ISO/IEC 17025:2005
Chromium	ISO/IEC 17025:2005
Cobalt	ISO/IEC 17025:2005
Copper	ISO/IEC 17025:2005
Iron	ISO/IEC 17025:2005
Iron hi	ISO/IEC 17025:2005
Lead	ISO/IEC 17025:2005
Lithium	ISO/IEC 17025:2005
Magnesium	ISO/IEC 17025:2005
Magnesium hi	ISO/IEC 17025:2005
Manganese	ISO/IEC 17025:2005
Molybdenum	ISO/IEC 17025:2005
Nickel	ISO/IEC 17025:2005
Potassium	ISO/IEC 17025:2005
Selenium	ISO/IEC 17025:2005
Silver	ISO/IEC 17025:2005
Sodium	ISO/IEC 17025:2005
Strontium	ISO/IEC 17025:2005



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Accredited Analyses included in this Report



Method: EPA 200.7 in Water
Analysis: Metals ICP-AES (w)
Analyte

Certifications

Thallium	ISO/IEC 17025:2005
Tin	ISO/IEC 17025:2005
Titanium	ISO/IEC 17025:2005
Vanadium	ISO/IEC 17025:2005
Zinc	ISO/IEC 17025:2005

Analytes not listed above are not accredited by ANAB.



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

ANALYSIS CASE NARRATIVE

GENERAL INFORMATION

CRL received water samples for trace metals analysis by inductively coupled plasma-atomic emission spectroscopy (ICP-AES). The assigned work order(s) and sample numbers to which this narrative applies are listed below:

Work Order (number of samples)	Batch Number
1805007 (44)	B18E017, B18E018

The designated analyst for these samples, Amanda Wroble, can be reached at 312.353.0375. All holding times were met.

Per pen & ink – 14097, the samples were not homogenized before subsampling. The samples were digested using CRL SOP METALS025, Rev. 3 (EPA Method 200.2) and analyzed using CRL SOP METALS003A, Rev. 4 (EPA Method 200.7/SW-846 Method 6010D).

SAMPLE ANALYSIS AND RESULTS

The data reported herein meet the requirements referenced in the SOP used for analysis and any laboratory specifications stated in the *Quality Assurance Project Plan/Sampling Plan for Environmental Compliance Assessment for Central Sands*, dated April 2018.

The results were reported over three analytical runs due to quality control audit failures within each run.

QUALITY CONTROL

All quality control audits that bracketed samples to which this narrative applies and the run in which a specific sample/analyte was reported were within CRL limits for the requested analytes or did not result in qualification of the data.

Digestion Blank Spike and Matrix Spike (BS): Blank Spike Recovery Limit = $100 \pm 15\%$; Matrix Spike Recovery Limit = $100 \pm 25\%$. Titanium recoveries for B18E018-BS2 (118%) and B18E018-MS1 (137%) were outside their respective audit limits. Titanium results for B18E018 (1805007-21 thru -44) were flagged “K” for



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

potential high bias.



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

WORK ORDER

Printed: 5/7/2018 9:53:28AM

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Report To:

Cheryl Burdett
Water Division, WECA Region 5

77 West Jackson Boulevard
Chicago, IL 60604

Phone: (312) 886-1463
Fax: (312) 886-2001

Date Due: Jun-04-18 15:00 (30 day TAT)

Received By: Robert Snyder

Date Received: May-04-18 10:00

Logged In By: Robert Snyder

Date Logged In: May-07-18 07:38

Samples Received at:

Sample tags/labels **Yes**
Seals Intact **Yes**
Received on ice **Yes**
Paperwork Included **Yes**

Work Order Comments:

Copy/Relog from 1805005. Anions: Chloride and nitrate as NO3
Full List metals
pH paper used in SC 16H2601

Sample ID: 1805007-01 **Sampled:** May-02-18 06:38 **Matrix:** Water

Sample Name: D5a **Sample Location/Comments:** 5th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 06:38	pH = 1
Anions by IC	28	May-30-18 06:38	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 06:38	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 06:38	pH = 1
Solids, TDS	7	May-09-18 06:38	pH = 6
TKN DA	28	May-30-18 06:38	pH = 1
TOC	28	May-30-18 06:38	pH = 1
Total Phosphorus DA	28	May-30-18 06:38	pH = 1

Sample ID: 1805007-02 **Sampled:** May-02-18 06:46 **Matrix:** Water

Sample Name: D5b **Sample Location/Comments:** 5th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 06:46	pH = 1
Anions by IC	28	May-30-18 06:46	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 06:46	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 06:46	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-02 Sampled: May-02-18 06:46 Matrix: Water

Sample Name: D5b Sample Location/Comments: 5th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Solids, TDS	7	May-09-18 06:46	pH = 5
TKN DA	28	May-30-18 06:46	pH = 1
TOC	28	May-30-18 06:46	pH = 1
Total Phosphorus DA	28	May-30-18 06:46	pH = 1

Sample ID: 1805007-03 Sampled: May-02-18 07:17 Matrix: Water

Sample Name: D6a Sample Location/Comments: 5th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 07:17	pH = 1
Anions by IC	28	May-30-18 07:17	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 07:17	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 07:17	pH = 1
Solids, TDS	7	May-09-18 07:17	pH = 6
TKN DA	28	May-30-18 07:17	pH = 1
TOC	28	May-30-18 07:17	pH = 1
Total Phosphorus DA	28	May-30-18 07:17	pH = 1

Sample ID: 1805007-04 Sampled: May-02-18 07:29 Matrix: Water

Sample Name: D6b Sample Location/Comments: 5th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 07:29	pH = 1
Anions by IC	28	May-30-18 07:29	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 07:29	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 07:29	pH = 1
Solids, TDS	7	May-09-18 07:29	pH = 6
TKN DA	28	May-30-18 07:29	pH = 1
TOC	28	May-30-18 07:29	pH = 1
Total Phosphorus DA	28	May-30-18 07:29	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-05 Sampled: May-02-18 08:01 Matrix: Water

Sample Name: D7 equip Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:01	pH = 1
Anions by IC	28	May-30-18 08:01	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 08:01	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:01	pH = 1
Solids, TDS	7	May-09-18 08:01	pH = 5
TKN DA	28	May-30-18 08:01	pH = 1
TOC	28	May-30-18 08:01	pH = 1
Total Phosphorus DA	28	May-30-18 08:01	pH = 1

Sample ID: 1805007-06 Sampled: May-02-18 08:03 Matrix: Water

Sample Name: FB3 Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:03	pH = 1
Anions by IC	28	May-30-18 08:03	pH = 4
Metals ICP-AES (w)	180	Oct-29-18 08:03	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:03	pH = 1
Solids, TDS	7	May-09-18 08:03	pH = 4
TKN DA	28	May-30-18 08:03	pH = 1
TOC	28	May-30-18 08:03	pH = 1
Total Phosphorus DA	28	May-30-18 08:03	pH = 1

Sample ID: 1805007-07 Sampled: May-02-18 08:12 Matrix: Water

Sample Name: D7a Dup Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:12	pH = 1
Anions by IC	28	May-30-18 08:12	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 08:12	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:12	pH = 1
Solids, TDS	7	May-09-18 08:12	pH = 6
TKN DA	28	May-30-18 08:12	pH = 1
TOC	28	May-30-18 08:12	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-07 Sampled: May-02-18 08:12 Matrix: Water

Sample Name: D7a Dup Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Total Phosphorus DA	28	May-30-18 08:12	pH = 1

Sample ID: 1805007-08 Sampled: May-02-18 08:12 Matrix: Water QC Source Sample MS/MSD

Sample Name: D7a Sample Location/Comments: 23rd Avenue

Sample Comments: MS/MSD

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:12	pH = 1
Anions by IC	28	May-30-18 08:12	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 08:12	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:12	pH = 1
Solids, TDS	7	May-09-18 08:12	pH = 6
TKN DA	28	May-30-18 08:12	pH = 1
TOC	28	May-30-18 08:12	pH = 1
Total Phosphorus DA	28	May-30-18 08:12	pH = 1

Sample ID: 1805007-09 Sampled: May-02-18 08:19 Matrix: Water

Sample Name: D7b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:19	pH = 1
Anions by IC	28	May-30-18 08:19	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 08:19	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:19	pH = 1
Solids, TDS	7	May-09-18 08:19	pH = 5
TKN DA	28	May-30-18 08:19	pH = 1
TOC	28	May-30-18 08:19	pH = 1
Total Phosphorus DA	28	May-30-18 08:19	pH = 1

Sample ID: 1805007-10 Sampled: May-02-18 08:55 Matrix: Water

Sample Name: D8a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:55	pH = 1
Anions by IC	28	May-30-18 08:55	pH = 6

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-10 Sampled: May-02-18 08:55 Matrix: Water

Sample Name: D8a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Oct-29-18 08:55	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:55	pH = 1
Solids, TDS	7	May-09-18 08:55	pH = 6
TKN DA	28	May-30-18 08:55	pH = 1
TOC	28	May-30-18 08:55	pH = 1
Total Phosphorus DA	28	May-30-18 08:55	pH = 1

Sample ID: 1805007-11 Sampled: May-02-18 09:11 Matrix: Water

Sample Name: D8b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 09:11	pH = 1
Anions by IC	28	May-30-18 09:11	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 09:11	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 09:11	pH = 1
Solids, TDS	7	May-09-18 09:11	pH = 6
TKN DA	28	May-30-18 09:11	pH = 1
TOC	28	May-30-18 09:11	pH = 1
Total Phosphorus DA	28	May-30-18 09:11	pH = 1

Sample ID: 1805007-12 Sampled: May-02-18 09:45 Matrix: Water

Sample Name: D9a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 09:45	pH = 1
Anions by IC	28	May-30-18 09:45	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 09:45	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 09:45	pH = 1
Solids, TDS	7	May-09-18 09:45	pH = 6
TKN DA	28	May-30-18 09:45	pH = 1
TOC	28	May-30-18 09:45	pH = 1
Total Phosphorus DA	28	May-30-18 09:45	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-13 Sampled: May-02-18 09:54 Matrix: Water

Sample Name: D9b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 09:54	pH = 1
Anions by IC	28	May-30-18 09:54	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 09:54	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 09:54	pH = 1
Solids, TDS	7	May-09-18 09:54	pH = 6
TKN DA	28	May-30-18 09:54	pH = 1
TOC	28	May-30-18 09:54	pH = 1
Total Phosphorus DA	28	May-30-18 09:54	pH = 1

Sample ID: 1805007-14 Sampled: May-02-18 10:29 Matrix: Water

Sample Name: D10a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:29	pH = 1
Anions by IC	28	May-30-18 10:29	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 10:29	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:29	pH = 1
Solids, TDS	7	May-09-18 10:29	pH = 6
TKN DA	28	May-30-18 10:29	pH = 1
TOC	28	May-30-18 10:29	pH = 1
Total Phosphorus DA	28	May-30-18 10:29	pH = 1

Sample ID: 1805007-15 Sampled: May-02-18 10:29 Matrix: Water

Sample Name: D10a Dup Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:29	pH = 1
Anions by IC	28	May-30-18 10:29	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 10:29	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:29	pH = 1
Solids, TDS	7	May-09-18 10:29	pH = 6
TKN DA	28	May-30-18 10:29	pH = 1
TOC	28	May-30-18 10:29	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-15 Sampled: May-02-18 10:29 Matrix: Water

Sample Name: D10a Dup Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Total Phosphorus DA	28	May-30-18 10:29	pH = 1

Sample ID: 1805007-16 Sampled: May-02-18 10:41 Matrix: Water

Sample Name: D10b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:41	pH = 1
Anions by IC	28	May-30-18 10:41	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 10:41	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:41	pH = 1
Solids, TDS	7	May-09-18 10:41	pH = 5
TKN DA	28	May-30-18 10:41	pH = 1
TOC	28	May-30-18 10:41	pH = 1
Total Phosphorus DA	28	May-30-18 10:41	pH = 1

Sample ID: 1805007-17 Sampled: May-02-18 10:41 Matrix: Water

Sample Name: D10b Dup Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:41	pH = 1
Anions by IC	28	May-30-18 10:41	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 10:41	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:41	pH = 1
Solids, TDS	7	May-09-18 10:41	pH = 5
TKN DA	28	May-30-18 10:41	pH = 1
TOC	28	May-30-18 10:41	pH = 1
Total Phosphorus DA	28	May-30-18 10:41	pH = 1

Sample ID: 1805007-18 Sampled: May-02-18 11:19 Matrix: Water

Sample Name: D11a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 11:19	pH = 1
Anions by IC	28	May-30-18 11:19	pH = 6

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-18 Sampled: May-02-18 11:19 Matrix: Water

Sample Name: D11a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Oct-29-18 11:19	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 11:19	pH = 1
Solids, TDS	7	May-09-18 11:19	pH = 6
TKN DA	28	May-30-18 11:19	pH = 1
TOC	28	May-30-18 11:19	pH = 1
Total Phosphorus DA	28	May-30-18 11:19	pH = 1

Sample ID: 1805007-19 Sampled: May-02-18 11:42 Matrix: Water

Sample Name: D11b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 11:42	pH = 1
Anions by IC	28	May-30-18 11:42	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 11:42	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 11:42	pH = 1
Solids, TDS	7	May-09-18 11:42	pH = 5
TKN DA	28	May-30-18 11:42	pH = 1
TOC	28	May-30-18 11:42	pH = 1
Total Phosphorus DA	28	May-30-18 11:42	pH = 1

Sample ID: 1805007-20 Sampled: May-02-18 12:41 Matrix: Water

Sample Name: E1a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 12:41	pH = 1
Anions by IC	28	May-30-18 12:41	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 12:41	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 12:41	pH = 1
Solids, TDS	7	May-09-18 12:41	pH = 6
TKN DA	28	May-30-18 12:41	pH = 1
TOC	28	May-30-18 12:41	pH = 1
Total Phosphorus DA	28	May-30-18 12:41	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-21 Sampled: May-02-18 12:58 Matrix: Water

Sample Name: E1b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 12:58	pH = 1
Anions by IC	28	May-30-18 12:58	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 12:58	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 12:58	pH = 1
Solids, TDS	7	May-09-18 12:58	pH = 6
TKN DA	28	May-30-18 12:58	pH = 1
TOC	28	May-30-18 12:58	pH = 1
Total Phosphorus DA	28	May-30-18 12:58	pH = 1

Sample ID: 1805007-22 Sampled: May-02-18 13:28 Matrix: Water

Sample Name: E2a Sample Location/Comments: Porter Road

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 13:28	pH = 1
Anions by IC	28	May-30-18 13:28	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 13:28	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:28	pH = 1
Solids, TDS	7	May-09-18 13:28	pH = 6
TKN DA	28	May-30-18 13:28	pH = 1
TOC	28	May-30-18 13:28	pH = 1
Total Phosphorus DA	28	May-30-18 13:28	pH = 1

Sample ID: 1805007-23 Sampled: May-02-18 13:37 Matrix: Water

Sample Name: E2b Sample Location/Comments: Porter Road

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 13:37	pH = 1
Anions by IC	28	May-30-18 13:37	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 13:37	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:37	pH = 1
Solids, TDS	7	May-09-18 13:37	pH = 5
TKN DA	28	May-30-18 13:37	pH = 1
TOC	28	May-30-18 13:37	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-23 Sampled: May-02-18 13:37 Matrix: Water

Sample Name: E2b Sample Location/Comments: Porter Road

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Total Phosphorus DA	28	May-30-18 13:37	pH = 1

Sample ID: 1805007-24 Sampled: May-02-18 13:28 Matrix: Water

Sample Name: E2a Dup Sample Location/Comments: Porter Road

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 13:28	pH = 1
Anions by IC	28	May-30-18 13:28	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 13:28	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:28	pH = 1
Solids, TDS	7	May-09-18 13:28	pH = 6
TKN DA	28	May-30-18 13:28	pH = 1
TOC	28	May-30-18 13:28	pH = 1
Total Phosphorus DA	28	May-30-18 13:28	pH = 1

Sample ID: 1805007-25 Sampled: May-02-18 13:37 Matrix: Water

Sample Name: E2b Dup Sample Location/Comments: Porter Road

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 13:37	pH = 1
Anions by IC	28	May-30-18 13:37	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 13:37	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:37	pH = 1
Solids, TDS	7	May-09-18 13:37	pH = 5
TKN DA	28	May-30-18 13:37	pH = 1
TOC	28	May-30-18 13:37	pH = 1
Total Phosphorus DA	28	May-30-18 13:37	pH = 1

Sample ID: 1805007-26 Sampled: May-02-18 14:03 Matrix: Water

Sample Name: E3a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 14:03	pH = 1
Anions by IC	28	May-30-18 14:03	pH = 6

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-26 Sampled: May-02-18 14:03 Matrix: Water

Sample Name: E3a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Oct-29-18 14:03	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:03	pH = 1
Solids, TDS	7	May-09-18 14:03	pH = 6
TKN DA	28	May-30-18 14:03	pH = 1
TOC	28	May-30-18 14:03	pH = 1
Total Phosphorus DA	28	May-30-18 14:03	pH = 1

Sample ID: 1805007-27 Sampled: May-02-18 14:09 Matrix: Water

Sample Name: E3b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 14:09	pH = 1
Anions by IC	28	May-30-18 14:09	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 14:09	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:09	pH = 1
Solids, TDS	7	May-09-18 14:09	pH = 6
TKN DA	28	May-30-18 14:09	pH = 1
TOC	28	May-30-18 14:09	pH = 1
Total Phosphorus DA	28	May-30-18 14:09	pH = 1

Sample ID: 1805007-28 Sampled: May-02-18 14:37 Matrix: Water

Sample Name: E4a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 14:37	pH = 1
Anions by IC	28	May-30-18 14:37	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 14:37	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:37	pH = 1
Solids, TDS	7	May-09-18 14:37	pH = 6
TKN DA	28	May-30-18 14:37	pH = 1
TOC	28	May-30-18 14:37	pH = 1
Total Phosphorus DA	28	May-30-18 14:37	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-29 Sampled: May-02-18 14:43 Matrix: Water

Sample Name: E4b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 14:43	pH = 1
Anions by IC	28	May-30-18 14:43	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 14:43	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:43	pH = 1
Solids, TDS	7	May-09-18 14:43	pH = 6
TKN DA	28	May-30-18 14:43	pH = 1
TOC	28	May-30-18 14:43	pH = 1
Total Phosphorus DA	28	May-30-18 14:43	pH = 1

Sample ID: 1805007-30 Sampled: May-02-18 15:08 Matrix: Water

Sample Name: E5a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:08	pH = 1
Anions by IC	28	May-30-18 15:08	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:08	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:08	pH = 1
Solids, TDS	7	May-09-18 15:08	pH = 6
TKN DA	28	May-30-18 15:08	pH = 1
TOC	28	May-30-18 15:08	pH = 1
Total Phosphorus DA	28	May-30-18 15:08	pH = 1

Sample ID: 1805007-31 Sampled: May-02-18 15:13 Matrix: Water

Sample Name: E5b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:13	pH = 1
Anions by IC	28	May-30-18 15:13	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:13	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:13	pH = 1
Solids, TDS	7	May-09-18 15:13	pH = 6
TKN DA	28	May-30-18 15:13	pH = 1
TOC	28	May-30-18 15:13	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-31 Sampled: May-02-18 15:13 Matrix: Water

Sample Name: E5b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Total Phosphorus DA	28	May-30-18 15:13	pH = 1

Sample ID: 1805007-32 Sampled: May-02-18 15:38 Matrix: Water

Sample Name: E6a Sample Location/Comments: 20th Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:38	pH = 1
Anions by IC	28	May-30-18 15:38	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:38	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:38	pH = 1
Solids, TDS	7	May-09-18 15:38	pH = 6
TKN DA	28	May-30-18 15:38	pH = 1
TOC	28	May-30-18 15:38	pH = 1
Total Phosphorus DA	28	May-30-18 15:38	pH = 1

Sample ID: 1805007-33 Sampled: May-02-18 15:44 Matrix: Water

Sample Name: E6b Sample Location/Comments: 20th Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:44	pH = 1
Anions by IC	28	May-30-18 15:44	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:44	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:44	pH = 1
Solids, TDS	7	May-09-18 15:44	pH = 6
TKN DA	28	May-30-18 15:44	pH = 1
TOC	28	May-30-18 15:44	pH = 1
Total Phosphorus DA	28	May-30-18 15:44	pH = 1

Sample ID: 1805007-34 Sampled: May-02-18 16:09 Matrix: Water

Sample Name: E7a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 16:09	pH = 1
Anions by IC	28	May-30-18 16:09	pH = 5

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-34 Sampled: May-02-18 16:09 Matrix: Water

Sample Name: E7a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Oct-29-18 16:09	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 16:09	pH = 1
Solids, TDS	7	May-09-18 16:09	pH = 5
TKN DA	28	May-30-18 16:09	pH = 1
TOC	28	May-30-18 16:09	pH = 1
Total Phosphorus DA	28	May-30-18 16:09	pH = 1

Sample ID: 1805007-35 Sampled: May-02-18 16:35 Matrix: Water

Sample Name: E7b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 16:35	pH = 1
Anions by IC	28	May-30-18 16:35	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 16:35	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 16:35	pH = 1
Solids, TDS	7	May-09-18 16:35	pH = 5
TKN DA	28	May-30-18 16:35	pH = 1
TOC	28	May-30-18 16:35	pH = 1
Total Phosphorus DA	28	May-30-18 16:35	pH = 1

Sample ID: 1805007-36 Sampled: May-03-18 08:40 Matrix: Water

Sample Name: E8a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 08:40	pH = 1
Anions by IC	28	May-31-18 08:40	pH = 5
Metals ICP-AES (w)	180	Oct-30-18 08:40	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 08:40	pH = 1
Solids, TDS	7	May-10-18 08:40	pH = 5
TKN DA	28	May-31-18 08:40	pH = 1
TOC	28	May-31-18 08:40	pH = 1
Total Phosphorus DA	28	May-31-18 08:40	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-37 Sampled: May-03-18 08:48 Matrix: Water

Sample Name: E8b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 08:48	pH = 1
Anions by IC	28	May-31-18 08:48	pH = 6
Metals ICP-AES (w)	180	Oct-30-18 08:48	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 08:48	pH = 1
Solids, TDS	7	May-10-18 08:48	pH = 6
TKN DA	28	May-31-18 08:48	pH = 1
TOC	28	May-31-18 08:48	pH = 1
Total Phosphorus DA	28	May-31-18 08:48	pH = 1

Sample ID: 1805007-38 Sampled: May-03-18 07:15 Matrix: Water

Sample Name: E10a Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:15	pH = 1
Anions by IC	28	May-31-18 07:15	pH = 6
Metals ICP-AES (w)	180	Oct-30-18 07:15	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:15	pH = 1
Solids, TDS	7	May-10-18 07:15	pH = 6
TKN DA	28	May-31-18 07:15	pH = 1
TOC	28	May-31-18 07:15	pH = 1
Total Phosphorus DA	28	May-31-18 07:15	pH = 1

Sample ID: 1805007-39 Sampled: May-03-18 07:15 Matrix: Water

Sample Name: E10a Dup Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:15	pH = 1
Anions by IC	28	May-31-18 07:15	pH = 6
Metals ICP-AES (w)	180	Oct-30-18 07:15	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:15	pH = 1
Solids, TDS	7	May-10-18 07:15	pH = 6
TKN DA	28	May-31-18 07:15	pH = 1
TOC	28	May-31-18 07:15	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-39 Sampled: May-03-18 07:15 Matrix: Water

Sample Name: E10a Dup Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Total Phosphorus DA	28	May-31-18 07:15	pH = 1

Sample ID: 1805007-40 Sampled: May-03-18 07:27 Matrix: Water

Sample Name: E10b Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:27	pH = 1
Anions by IC	28	May-31-18 07:27	pH = 6
Metals ICP-AES (w)	180	Oct-30-18 07:27	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:27	pH = 1
Solids, TDS	7	May-10-18 07:27	pH = 6
TKN DA	28	May-31-18 07:27	pH = 1
TOC	28	May-31-18 07:27	pH = 1
Total Phosphorus DA	28	May-31-18 07:27	pH = 1

Sample ID: 1805007-41 Sampled: May-03-18 07:36 Matrix: Water

Sample Name: FB4 Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:36	pH = 1
Anions by IC	28	May-31-18 07:36	pH = 4
Metals ICP-AES (w)	180	Oct-30-18 07:36	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:36	pH = 1
Solids, TDS	7	May-10-18 07:36	pH = 4
TKN DA	28	May-31-18 07:36	pH = 1
TOC	28	May-31-18 07:36	pH = 1
Total Phosphorus DA	28	May-31-18 07:36	pH = 1

Sample ID: 1805007-42 Sampled: May-03-18 07:13 Matrix: Water

Sample Name: E10 Equip Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:13	pH = 1
Anions by IC	28	May-31-18 07:13	pH = 4

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

Sample ID: 1805007-42 Sampled: May-03-18 07:13 Matrix: Water

Sample Name: E10 Equip Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Oct-30-18 07:13	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:13	pH = 1
Solids, TDS	7	May-10-18 07:13	pH = 4
TKN DA	28	May-31-18 07:13	pH = 1
TOC	28	May-31-18 07:13	pH = 1
Total Phosphorus DA	28	May-31-18 07:13	pH = 1

Sample ID: 1805007-43 Sampled: May-03-18 09:53 Matrix: Water

Sample Name: E9a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 09:53	pH = 1
Anions by IC	28	May-31-18 09:53	pH = 5
Metals ICP-AES (w)	180	Oct-30-18 09:53	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 09:53	pH = 1
Solids, TDS	7	May-10-18 09:53	pH = 5
TKN DA	28	May-31-18 09:53	pH = 1
TOC	28	May-31-18 09:53	pH = 1
Total Phosphorus DA	28	May-31-18 09:53	pH = 1

Sample ID: 1805007-44 Sampled: May-03-18 10:02 Matrix: Water

Sample Name: E9b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 10:02	pH = 1
Anions by IC	28	May-31-18 10:02	pH = 5
Metals ICP-AES (w)	180	Oct-30-18 10:02	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 10:02	pH = 1
Solids, TDS	7	May-10-18 10:02	pH = 5
TKN DA	28	May-31-18 10:02	pH = 1
TOC	28	May-31-18 10:02	pH = 1
Total Phosphorus DA	28	May-31-18 10:02	pH = 1

WORK ORDER

Printed: 5/7/2018 9:53:28AM

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5
Project: Central Sands

Project Manager: Angela Ockrassa Davis
Project Number: CB022018

PROJECT COMMENTS: Anions: Chloride, fluoride, bromide, sulfate.
Full List metals

REVIEWED

By Robert Thompson at 9:54 am, May 07, 2018

Reviewed By

Date



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D5a (1805007-01)

Matrix: Water

Sampled: May-02-18 06:38

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.65			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.409			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	60.5			0.200	"	"	"	"	"
Chromium	0.406			0.005	"	"	"	"	"
Cobalt	0.0176			0.006	"	"	"	"	"
Copper	0.167			0.0200	"	"	"	"	"
Iron	58.9			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	28.8			0.200	"	"	"	"	"
Manganese	4.84			0.008	"	"	"	"	"
Molybdenum	0.0504			0.0120	"	"	"	"	"
Nickel	0.0835			0.0120	"	"	"	"	"
Potassium	3.43			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	2.58			0.400	"	"	"	"	"
Strontium	0.0808			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0473			0.006	"	"	"	"	"
Vanadium	0.0122			0.005	"	"	"	"	"
Zinc	0.0336			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D5b (1805007-02)

Matrix: Water

Sampled: May-02-18 06:46

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	10.6			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.332			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	14.4			0.200	"	"	"	"	"
Chromium	0.182			0.005	"	"	"	"	"
Cobalt	0.0248			0.006	"	"	"	"	"
Copper	0.0750			0.0200	"	"	"	"	"
Iron	27.5			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	4.94			0.200	"	"	"	"	"
Manganese	2.88			0.008	"	"	"	"	"
Molybdenum	0.0179			0.0120	"	"	"	"	"
Nickel	0.0379			0.0120	"	"	"	"	"
Potassium	2.25			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	1.73			0.400	"	"	"	"	"
Strontium	0.0677			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0655			0.006	"	"	"	"	"
Vanadium	0.0488			0.005	"	"	"	"	"
Zinc	0.0560			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D6a (1805007-03)

Matrix: Water

Sampled: May-02-18 07:17

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.94			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.237			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0949			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	154			0.200	"	"	"	"	"
Chromium	0.217			0.005	"	"	"	"	"
Cobalt	0.0097			0.006	"	"	"	"	"
Copper	0.0730			0.0200	"	"	"	"	"
Iron	30.3			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	85.4			0.200	"	"	"	"	"
Manganese	0.658			0.008	"	"	"	"	"
Molybdenum	0.0350			0.0120	"	"	"	"	"
Nickel	0.0426			0.0120	"	"	"	"	"
Potassium	10.5			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	16.2			0.400	"	"	"	"	"
Strontium	0.517			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0383			0.006	"	"	"	"	"
Vanadium	0.0086			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D6b (1805007-04)

Matrix: Water

Sampled: May-02-18 07:29

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.08			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.165			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0982			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	138			0.200	"	"	"	"	"
Chromium	0.324			0.005	"	"	"	"	"
Cobalt	0.0132			0.006	"	"	"	"	"
Copper	0.117			0.0200	"	"	"	"	"
Iron	43.8			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	65.0			0.200	"	"	"	"	"
Manganese	1.26			0.008	"	"	"	"	"
Molybdenum	0.0405			0.0120	"	"	"	"	"
Nickel	0.0576			0.0120	"	"	"	"	"
Potassium	25.8			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	13.3			0.400	"	"	"	"	"
Strontium	0.197			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0334			0.006	"	"	"	"	"
Vanadium	0.0123			0.005	"	"	"	"	"
Zinc	0.0751			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D7 equip (1805007-05)

Matrix: Water

Sampled: May-02-18 08:01

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	U			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	U			0.200	"	"	"	"	"
Chromium	U			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	U			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	U			0.200	"	"	"	"	"
Manganese	U			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	U			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	U			0.400	"	"	"	"	"
Strontium	U			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	U			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

FB3 (1805007-06)

Matrix: Water

Sampled: May-02-18 08:03

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	U			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	U			0.200	"	"	"	"	"
Chromium	U			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	U			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	U			0.200	"	"	"	"	"
Manganese	U			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	U			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	U			0.400	"	"	"	"	"
Strontium	U			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	U			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D7a Dup (1805007-07)

Matrix: Water

Sampled: May-02-18 08:12

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.07			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.136			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	118			0.200	"	"	"	"	"
Chromium	0.0286			0.005	"	"	"	"	"
Cobalt	0.0269			0.006	"	"	"	"	"
Copper	0.0432			0.0200	"	"	"	"	"
Iron	7.25			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	52.7			0.200	"	"	"	"	"
Manganese	2.13			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0333			0.0120	"	"	"	"	"
Potassium	2.24			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	5.20			0.400	"	"	"	"	"
Strontium	0.186			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0347			0.006	"	"	"	"	"
Vanadium	0.0086			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D7a (1805007-08)

Matrix: Water

Sampled: May-02-18 08:12

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	0.874			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.146			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	96.8			0.200	"	"	"	"	"
Chromium	0.0277			0.005	"	"	"	"	"
Cobalt	0.0305			0.006	"	"	"	"	"
Copper	0.0470			0.0200	"	"	"	"	"
Iron	6.14			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	40.7			0.200	"	"	"	"	May-10-18
Manganese	2.28			0.008	"	"	"	"	May-10-18
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0341			0.0120	"	"	"	"	"
Potassium	2.16			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	5.25			0.400	"	"	"	"	"
Strontium	0.175			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0339			0.006	"	"	"	"	"
Vanadium	0.0063			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D7b (1805007-09)

Matrix: Water

Sampled: May-02-18 08:19

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	7.51			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.420			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	106			0.200	"	"	"	"	"
Chromium	0.280			0.005	"	"	"	"	"
Cobalt	0.0398			0.006	"	"	"	"	"
Copper	0.150			0.0200	"	"	"	"	"
Iron	41.1			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	28.6			0.200	"	"	"	"	May-10-18
Manganese	6.69			0.008	"	"	"	"	May-10-18
Molybdenum	0.0247			0.0120	"	"	"	"	"
Nickel	0.0705			0.0120	"	"	"	"	"
Potassium	20.5			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	6.90			0.400	"	"	"	"	"
Strontium	0.612			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0554			0.006	"	"	"	"	"
Vanadium	0.0233			0.005	"	"	"	"	"
Zinc	0.107			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D8a (1805007-10)

Matrix: Water

Sampled: May-02-18 08:55

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.11			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.262			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0566			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	171			0.200	"	"	"	"	"
Chromium	0.131			0.005	"	"	"	"	"
Cobalt	0.0129			0.006	"	"	"	"	"
Copper	0.0874			0.0200	"	"	"	"	"
Iron	22.3			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	78.6			0.200	"	"	"	"	May-10-18
Manganese	3.24			0.008	"	"	"	"	May-10-18
Molybdenum	0.0153			0.0120	"	"	"	"	"
Nickel	0.0436			0.0120	"	"	"	"	"
Potassium	9.38			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	12.2			0.400	"	"	"	"	"
Strontium	0.617			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0275			0.006	"	"	"	"	"
Vanadium	0.0085			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D8b (1805007-11)

Matrix: Water

Sampled: May-02-18 09:11

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.35			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.370			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0954			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	109			0.200	"	"	"	"	"
Chromium	0.342			0.005	"	"	"	"	"
Cobalt	0.0417			0.006	"	"	"	"	"
Copper	0.209			0.0200	"	"	"	"	"
Iron	44.1			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	53.7			0.200	"	"	"	"	May-10-18
Manganese	9.73			0.008	"	"	"	"	May-10-18
Molybdenum	0.0231			0.0120	"	"	"	"	"
Nickel	0.0950			0.0120	"	"	"	"	"
Potassium	20.6			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	17.0			0.400	"	"	"	"	"
Strontium	0.262			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0405			0.006	"	"	"	"	"
Vanadium	0.0231			0.005	"	"	"	"	"
Zinc	0.0760			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D9a (1805007-12)

Matrix: Water

Sampled: May-02-18 09:45

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.68			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.180			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0521			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	133			0.200	"	"	"	"	"
Chromium	0.128			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	0.0569			0.0200	"	"	"	"	"
Iron	19.3			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	63.4			0.200	"	"	"	"	May-10-18
Manganese	1.03			0.008	"	"	"	"	May-10-18
Molybdenum	0.0138			0.0120	"	"	"	"	"
Nickel	0.0313			0.0120	"	"	"	"	"
Potassium	6.40			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	7.09			0.400	"	"	"	"	"
Strontium	0.743			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0202			0.006	"	"	"	"	"
Vanadium	0.006			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D9b (1805007-13)

Matrix: Water

Sampled: May-02-18 09:54

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.58			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.398			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	36.8			0.200	"	"	"	"	"
Chromium	0.230			0.005	"	"	"	"	"
Cobalt	0.0233			0.006	"	"	"	"	"
Copper	0.124			0.0200	"	"	"	"	"
Iron	31.7			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	16.7			0.200	"	"	"	"	May-10-18
Manganese	2.13			0.008	"	"	"	"	May-10-18
Molybdenum	0.0188			0.0120	"	"	"	"	"
Nickel	0.0486			0.0120	"	"	"	"	"
Potassium	3.33			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	2.81			0.400	"	"	"	"	"
Strontium	0.139			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0341			0.006	"	"	"	"	"
Vanadium	0.0277			0.005	"	"	"	"	"
Zinc	0.0434			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D10a (1805007-14)

Matrix: Water

Sampled: May-02-18 10:29

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.54			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.194			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	130			0.200	"	"	"	"	"
Chromium	0.265			0.005	"	"	"	"	"
Cobalt	0.0107			0.006	"	"	"	"	"
Copper	0.0951			0.0200	"	"	"	"	"
Iron	36.3			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	66.3			0.200	"	"	"	"	May-10-18
Manganese	1.97			0.008	"	"	"	"	May-10-18
Molybdenum	0.0353			0.0120	"	"	"	"	"
Nickel	0.0592			0.0120	"	"	"	"	"
Potassium	5.91			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	3.59			0.400	"	"	"	"	"
Strontium	0.214			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0270			0.006	"	"	"	"	"
Vanadium	0.0071			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D10a Dup (1805007-15)

Matrix: Water

Sampled: May-02-18 10:29

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.81			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.156			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	105			0.200	"	"	"	"	"
Chromium	0.187			0.005	"	"	"	"	"
Cobalt	0.0083			0.006	"	"	"	"	"
Copper	0.0684			0.0200	"	"	"	"	"
Iron	24.8			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	51.3			0.200	"	"	"	"	May-10-18
Manganese	1.56			0.008	"	"	"	"	May-10-18
Molybdenum	0.0269			0.0120	"	"	"	"	"
Nickel	0.0412			0.0120	"	"	"	"	"
Potassium	5.38			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	3.42			0.400	"	"	"	"	"
Strontium	0.207			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0220			0.006	"	"	"	"	"
Vanadium	0.0054			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D10b (1805007-16)

Matrix: Water

Sampled: May-02-18 10:41

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.63			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.297			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	49.8			0.200	"	"	"	"	"
Chromium	0.218			0.005	"	"	"	"	"
Cobalt	0.0152			0.006	"	"	"	"	"
Copper	0.104			0.0200	"	"	"	"	"
Iron	29.1			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	20.8			0.200	"	"	"	"	May-10-18
Manganese	5.00			0.008	"	"	"	"	May-10-18
Molybdenum	0.0225			0.0120	"	"	"	"	"
Nickel	0.0531			0.0120	"	"	"	"	"
Potassium	3.39			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	3.63			0.400	"	"	"	"	"
Strontium	0.210			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0309			0.006	"	"	"	"	"
Vanadium	0.0151			0.005	"	"	"	"	"
Zinc	0.0494			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D10b Dup (1805007-17)

Matrix: Water

Sampled: May-02-18 10:41

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.82			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.330			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	51.0			0.200	"	"	"	"	"
Chromium	0.201			0.005	"	"	"	"	"
Cobalt	0.0166			0.006	"	"	"	"	"
Copper	0.105			0.0200	"	"	"	"	"
Iron	29.7			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	21.7			0.200	"	"	"	"	May-10-18
Manganese	6.74			0.008	"	"	"	"	May-10-18
Molybdenum	0.0174			0.0120	"	"	"	"	"
Nickel	0.0529			0.0120	"	"	"	"	"
Potassium	3.28			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	3.59			0.400	"	"	"	"	"
Strontium	0.213			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0359			0.006	"	"	"	"	"
Vanadium	0.0226			0.005	"	"	"	"	"
Zinc	0.0550			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D11a (1805007-18)

Matrix: Water

Sampled: May-02-18 11:19

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.83			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.357			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	87.4			0.200	"	"	"	"	"
Chromium	0.0166			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	0.0388			0.0200	"	"	"	"	"
Iron	3.33			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	43.5			0.200	"	"	"	"	May-10-18
Manganese	2.58			0.008	"	"	"	"	May-10-18
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0120			0.0120	"	"	"	"	"
Potassium	3.35			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	7.49			0.400	"	"	"	"	"
Strontium	0.373			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0124			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

D11b (1805007-19)

Matrix: Water

Sampled: May-02-18 11:42

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.36			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.193			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0654			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	45.5			0.200	"	"	"	"	"
Chromium	0.0224			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	0.0278			0.0200	"	"	"	"	"
Iron	4.03			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	16.7			0.200	"	"	"	"	May-10-18
Manganese	2.27			0.008	"	"	"	"	May-10-18
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	15.9			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	9.29			0.400	"	"	"	"	"
Strontium	0.123			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0207			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E1a (1805007-20)

Matrix: Water

Sampled: May-02-18 12:41

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.03			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.173			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0509			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	110			0.200	"	"	"	"	"
Chromium	0.0728			0.005	"	"	"	"	"
Cobalt	0.0104			0.006	"	"	"	"	"
Copper	0.0754			0.0200	"	"	"	"	"
Iron	11.6			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	52.3			0.200	"	"	"	"	May-10-18
Manganese	4.35			0.008	"	"	"	"	May-10-18
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0257			0.0120	"	"	"	"	"
Potassium	2.28			0.800	"	"	"	"	May-10-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	4.58			0.400	"	"	"	"	"
Strontium	0.307			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0270			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E1b (1805007-21)

Matrix: Water

Sampled: May-02-18 12:58

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.06			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.611			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	73.5			0.200	"	"	"	"	"
Chromium	0.199			0.005	"	"	"	"	"
Cobalt	0.0698			0.006	"	"	"	"	"
Copper	0.112			0.0200	"	"	"	"	"
Iron	30.7			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	21.2			0.200	"	"	"	"	"
Manganese	5.08			0.008	"	"	"	"	"
Molybdenum	0.0133			0.0120	"	"	"	"	"
Nickel	0.0566			0.0120	"	"	"	"	"
Potassium	8.86			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	4.94			0.400	"	"	"	"	"
Strontium	0.480			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0276	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0216			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E2a (1805007-22)

Matrix: Water

Sampled: May-02-18 13:28

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.09			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.101			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	38.8			0.200	"	"	"	"	"
Chromium	0.0397			0.005	"	"	"	"	"
Cobalt	0.0174			0.006	"	"	"	"	"
Copper	0.0546			0.0200	"	"	"	"	"
Iron	8.17			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	19.9			0.200	"	"	"	"	"
Manganese	2.46			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0312			0.0120	"	"	"	"	"
Potassium	1.72			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	23.3			0.400	"	"	"	"	"
Strontium	0.0553			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0272	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0061			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E2b (1805007-23)

Matrix: Water

Sampled: May-02-18 13:37

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.92			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.371			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	29.9			0.200	"	"	"	"	"
Chromium	0.179			0.005	"	"	"	"	"
Cobalt	0.0302			0.006	"	"	"	"	"
Copper	0.126			0.0200	"	"	"	"	"
Iron	29.9			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	12.1			0.200	"	"	"	"	"
Manganese	3.93			0.008	"	"	"	"	"
Molybdenum	0.0167			0.0120	"	"	"	"	"
Nickel	0.0641			0.0120	"	"	"	"	"
Potassium	4.02			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	3.00			0.400	"	"	"	"	"
Strontium	0.140			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0296	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0238			0.005	"	"	"	"	May-10-18
Zinc	0.0363			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E2a Dup (1805007-24)

Matrix: Water

Sampled: May-02-18 13:28

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.51			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.164			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	87.4			0.200	"	"	"	"	"
Chromium	0.0509			0.005	"	"	"	"	"
Cobalt	0.0223			0.006	"	"	"	"	"
Copper	0.0793			0.0200	"	"	"	"	"
Iron	10.5			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	49.5			0.200	"	"	"	"	"
Manganese	3.73			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0447			0.0120	"	"	"	"	"
Potassium	1.92			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	24.0			0.400	"	"	"	"	"
Strontium	0.0796			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0282	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0075			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E2b Dup (1805007-25)

Matrix: Water

Sampled: May-02-18 13:37

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.44			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.480			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	31.9			0.200	"	"	"	"	"
Chromium	0.204			0.005	"	"	"	"	"
Cobalt	0.0355			0.006	"	"	"	"	"
Copper	0.141			0.0200	"	"	"	"	"
Iron	31.1			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	13.4			0.200	"	"	"	"	"
Manganese	4.86			0.008	"	"	"	"	"
Molybdenum	0.0129			0.0120	"	"	"	"	"
Nickel	0.0694			0.0120	"	"	"	"	"
Potassium	4.36			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	3.26			0.400	"	"	"	"	"
Strontium	0.148			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0282	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0241			0.005	"	"	"	"	May-10-18
Zinc	0.0449			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E3a (1805007-26)

Matrix: Water

Sampled: May-02-18 14:03

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.08			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.228			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	118			0.200	"	"	"	"	"
Chromium	0.123			0.005	"	"	"	"	"
Cobalt	0.0228			0.006	"	"	"	"	"
Copper	0.0724			0.0200	"	"	"	"	"
Iron	24.8			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	68.6			0.200	"	"	"	"	"
Manganese	2.01			0.008	"	"	"	"	"
Molybdenum	0.0152			0.0120	"	"	"	"	"
Nickel	0.0543			0.0120	"	"	"	"	"
Potassium	2.48			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	3.11			0.400	"	"	"	"	"
Strontium	0.101			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0227	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0076			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E3b (1805007-27)

Matrix: Water

Sampled: May-02-18 14:09

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.43			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.215			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0519			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	81.6			0.200	"	"	"	"	"
Chromium	0.240			0.005	"	"	"	"	"
Cobalt	0.0326			0.006	"	"	"	"	"
Copper	0.0921			0.0200	"	"	"	"	"
Iron	31.6			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	45.2			0.200	"	"	"	"	"
Manganese	2.68			0.008	"	"	"	"	"
Molybdenum	0.0246			0.0120	"	"	"	"	"
Nickel	0.0513			0.0120	"	"	"	"	"
Potassium	2.20			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	2.76			0.400	"	"	"	"	"
Strontium	0.108			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0274	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0076			0.005	"	"	"	"	May-10-18
Zinc	0.0356			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E4a (1805007-28)

Matrix: Water

Sampled: May-02-18 14:37

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.09			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.251			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0542			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	161			0.200	"	"	"	"	"
Chromium	0.293			0.005	"	"	"	"	"
Cobalt	0.0148			0.006	"	"	"	"	"
Copper	0.121			0.0200	"	"	"	"	"
Iron	45.7			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	76.9			0.200	"	"	"	"	"
Manganese	1.25			0.008	"	"	"	"	"
Molybdenum	0.0463			0.0120	"	"	"	"	"
Nickel	0.0658			0.0120	"	"	"	"	"
Potassium	4.36			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	5.46			0.400	"	"	"	"	"
Strontium	0.367			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0346	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0111			0.005	"	"	"	"	May-10-18
Zinc	0.0325			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E4b (1805007-29)

Matrix: Water

Sampled: May-02-18 14:43

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	8.12			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.437			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	71.8			0.200	"	"	"	"	"
Chromium	0.306			0.005	"	"	"	"	"
Cobalt	0.0450			0.006	"	"	"	"	"
Copper	0.183			0.0200	"	"	"	"	"
Iron	49.3			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	27.7			0.200	"	"	"	"	"
Manganese	5.97			0.008	"	"	"	"	"
Molybdenum	0.0347			0.0120	"	"	"	"	"
Nickel	0.0864			0.0120	"	"	"	"	"
Potassium	17.6			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	5.12			0.400	"	"	"	"	"
Strontium	0.625			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0519	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0226			0.005	"	"	"	"	May-10-18
Zinc	0.0601			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E5a (1805007-30)

Matrix: Water

Sampled: May-02-18 15:08

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.63			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.359			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	141			0.200	"	"	"	"	"
Chromium	0.190			0.005	"	"	"	"	"
Cobalt	0.0187			0.006	"	"	"	"	"
Copper	0.0658			0.0200	"	"	"	"	"
Iron	26.7			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	74.5			0.200	"	"	"	"	"
Manganese	1.31			0.008	"	"	"	"	"
Molybdenum	0.0272			0.0120	"	"	"	"	"
Nickel	0.0412			0.0120	"	"	"	"	"
Potassium	16.0			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	6.58			0.400	"	"	"	"	"
Strontium	0.705			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0473	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0089			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E5b (1805007-31)

Matrix: Water

Sampled: May-02-18 15:13

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.40			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.240			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	127			0.200	"	"	"	"	"
Chromium	0.315			0.005	"	"	"	"	"
Cobalt	0.0256			0.006	"	"	"	"	"
Copper	0.123			0.0200	"	"	"	"	"
Iron	44.6			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	64.3			0.200	"	"	"	"	"
Manganese	2.77			0.008	"	"	"	"	"
Molybdenum	0.0396			0.0120	"	"	"	"	"
Nickel	0.0715			0.0120	"	"	"	"	"
Potassium	19.1			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	6.29			0.400	"	"	"	"	"
Strontium	0.218			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0468	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0138			0.005	"	"	"	"	May-10-18
Zinc	0.0499			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E6a (1805007-32)

Matrix: Water

Sampled: May-02-18 15:38

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.01			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.171			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	74.7			0.200	"	"	"	"	"
Chromium	0.0819			0.005	"	"	"	"	"
Cobalt	0.0369			0.006	"	"	"	"	"
Copper	0.0607			0.0200	"	"	"	"	"
Iron	15.1			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	42.0			0.200	"	"	"	"	"
Manganese	1.64			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0340			0.0120	"	"	"	"	"
Potassium	1.72			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	1.97			0.400	"	"	"	"	"
Strontium	0.0739			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0420	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0078			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E6b (1805007-33)

Matrix: Water

Sampled: May-02-18 15:44

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	13.6			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	1.10			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	30.9			0.200	"	"	"	"	"
Chromium	0.300			0.005	"	"	"	"	"
Cobalt	0.0515			0.006	"	"	"	"	"
Copper	0.134			0.0200	"	"	"	"	"
Iron	42.9			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	10.7			0.200	"	"	"	"	"
Manganese	1.62			0.008	"	"	"	"	"
Molybdenum	0.0266			0.0120	"	"	"	"	"
Nickel	0.0621			0.0120	"	"	"	"	"
Potassium	3.55			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	2.32			0.400	"	"	"	"	"
Strontium	0.186			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0642	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0603			0.005	"	"	"	"	May-10-18
Zinc	0.0838			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E7a (1805007-34)

Matrix: Water

Sampled: May-02-18 16:09

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.80			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.246			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	34.0			0.200	"	"	"	"	"
Chromium	0.0942			0.005	"	"	"	"	"
Cobalt	0.0143			0.006	"	"	"	"	"
Copper	0.0476			0.0200	"	"	"	"	"
Iron	19.5			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	11.9			0.200	"	"	"	"	"
Manganese	2.11			0.008	"	"	"	"	"
Molybdenum	0.0120			0.0120	"	"	"	"	"
Nickel	0.0276			0.0120	"	"	"	"	"
Potassium	23.5			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	4.38			0.400	"	"	"	"	"
Strontium	0.459			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0883	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0177			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E7b (1805007-35)

Matrix: Water

Sampled: May-02-18 16:35

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	8.19			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.272			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	46.5			0.200	"	"	"	"	"
Chromium	0.0503			0.005	"	"	"	"	"
Cobalt	0.0146			0.006	"	"	"	"	"
Copper	0.0313			0.0200	"	"	"	"	"
Iron	10.9			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	11.2			0.200	"	"	"	"	"
Manganese	1.52			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0146			0.0120	"	"	"	"	"
Potassium	15.7			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	4.40			0.400	"	"	"	"	"
Strontium	0.0562			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.194	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0325			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E8a (1805007-36)

Matrix: Water

Sampled: May-03-18 08:40

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.93			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.223			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0685			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	60.6			0.200	"	"	"	"	"
Chromium	0.0598			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	0.0354			0.0200	"	"	"	"	"
Iron	12.6			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	11.9			0.200	"	"	"	"	"
Manganese	0.177			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0194			0.0120	"	"	"	"	"
Potassium	3.88			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	5.08			0.400	"	"	"	"	"
Strontium	0.432			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0850	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0208			0.005	"	"	"	"	May-10-18
Zinc	0.115			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E8b (1805007-37)

Matrix: Water

Sampled: May-03-18 08:48

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	11.6			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.217			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	0.0862			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	47.8			0.200	"	"	"	"	"
Chromium	0.261			0.005	"	"	"	"	"
Cobalt	0.0155			0.006	"	"	"	"	"
Copper	0.0939			0.0200	"	"	"	"	"
Iron	33.9			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	20.9			0.200	"	"	"	"	"
Manganese	0.562			0.008	"	"	"	"	"
Molybdenum	0.0339			0.0120	"	"	"	"	"
Nickel	0.0410			0.0120	"	"	"	"	"
Potassium	16.3			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	5.28			0.400	"	"	"	"	"
Strontium	0.162			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.181	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0465			0.005	"	"	"	"	May-10-18
Zinc	0.696			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E10a (1805007-38)

Matrix: Water

Sampled: May-03-18 07:15

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.10			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.137			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	13.2			0.200	"	"	"	"	"
Chromium	0.0350			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	7.83			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	4.54			0.200	"	"	"	"	"
Manganese	0.238			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	0.948			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	1.82			0.400	"	"	"	"	"
Strontium	0.0218			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0547	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0145			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E10a Dup (1805007-39)

Matrix: Water

Sampled: May-03-18 07:15

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.20			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.0845			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	12.9			0.200	"	"	"	"	"
Chromium	0.0213			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	4.60			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	4.52			0.200	"	"	"	"	"
Manganese	0.130			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	0.804			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	1.79			0.400	"	"	"	"	"
Strontium	0.0181			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0255	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0088			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E10b (1805007-40)

Matrix: Water

Sampled: May-03-18 07:27

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	16.1			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.279			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	17.3			0.200	"	"	"	"	"
Chromium	0.386			0.005	"	"	"	"	"
Cobalt	0.0162			0.006	"	"	"	"	"
Copper	0.112			0.0200	"	"	"	"	"
Iron	44.4			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	8.33			0.200	"	"	"	"	"
Manganese	1.01			0.008	"	"	"	"	"
Molybdenum	0.0356			0.0120	"	"	"	"	"
Nickel	0.0470			0.0120	"	"	"	"	"
Potassium	2.89			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	2.14			0.400	"	"	"	"	"
Strontium	0.0550			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.441	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0480			0.005	"	"	"	"	May-10-18
Zinc	0.0844			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

FB4 (1805007-41)

Matrix: Water

Sampled: May-03-18 07:36

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	U			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	U			0.200	"	"	"	"	"
Chromium	U			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	U			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	U			0.200	"	"	"	"	"
Manganese	U			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	U			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	U			0.400	"	"	"	"	"
Strontium	U			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	U	K		0.006	"	"	"	"	May-21-18
Vanadium	U			0.005	"	"	"	"	May-10-18
Zinc	U			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E10 Equip (1805007-42)

Matrix: Water

Sampled: May-03-18 07:13

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.0067			0.003	"	"	"	"	May-21-18
Beryllium	U			0.002	"	"	"	"	May-10-18
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	0.867			0.200	"	"	"	"	"
Chromium	U			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	0.508			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	0.240			0.200	"	"	"	"	"
Manganese	0.0119			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	U			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	1.08			0.400	"	"	"	"	"
Strontium	U			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	U	K		0.006	"	"	"	"	May-21-18
Vanadium	U			0.005	"	"	"	"	May-10-18
Zinc	0.0302			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E9a (1805007-43)

Matrix: Water

Sampled: May-03-18 09:53

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.35			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.156			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	49.0			0.200	"	"	"	"	"
Chromium	0.0852			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	0.0598			0.0200	"	"	"	"	"
Iron	15.9			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	18.7			0.200	"	"	"	"	"
Manganese	0.240			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	0.0201			0.0120	"	"	"	"	"
Potassium	3.84			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	4.38			0.400	"	"	"	"	"
Strontium	0.249			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.0496	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0502			0.005	"	"	"	"	May-10-18
Zinc	0.135			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)
US EPA Region 5 Chicago Regional Laboratory

E9b (1805007-44)

Matrix: Water

Sampled: May-03-18 10:02

Received: May-04-18 10:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	9.52			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	0.327			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	45.1			0.200	"	"	"	"	"
Chromium	0.294			0.005	"	"	"	"	"
Cobalt	0.0267			0.006	"	"	"	"	"
Copper	0.0924			0.0200	"	"	"	"	"
Iron	40.5			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium	15.6			0.200	"	"	"	"	"
Manganese	1.04			0.008	"	"	"	"	"
Molybdenum	0.0371			0.0120	"	"	"	"	"
Nickel	0.0435			0.0120	"	"	"	"	"
Potassium	7.67			0.800	"	"	"	"	May-21-18
Selenium	U			0.0500	"	"	"	"	May-10-18
Silver	U			0.0100	"	"	"	"	"
Sodium	4.81			0.400	"	"	"	"	"
Strontium	0.366			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	0.284	K		0.006	"	"	"	"	May-21-18
Vanadium	0.0605			0.005	"	"	"	"	May-10-18
Zinc	0.184			0.0300	"	"	"	"	"



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: Central Sands
Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:
May-31-18 13:59

Notes and Definitions

K The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.

U Not Detected

NR Not Reported

Q QC limit Exceeded